STRATEGY RESEARCH PROJECT

OPTIMIZING LOGISTICS FOR ARMY TRANSFORMATION

BY

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ABSTRACT

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Logistics Management under transformation must be revolutionized to insure full compliance is realized and demonstrated in both the Interim and Objective Force concepts. A "total system" including both combat and logistics must be developed in parallel to maximize efficiencies. Undoubtedly, weapon system enhancements will have major impacts on the current logistics business process. The author examines how the Army transformation strategy will impact the logistics revolution currently in progress. The reduction of the logistical footprint utilizing key enablers such as commonality of systems parts, using reach-back as a critical path for "focused logistics" and meshing the acquisition process with a combination of logistical concepts. This paper will examine current logistical processes and how the organizations, systems, and business processes must be transformed to meet the Objective Force end-state.

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> To adjust the condition of the Army to better meet the requirements of the next century, we articulate this vision: 'Soldiers on point for the nation transforming this, the most respected army in the world, into a strategically responsive force that is dominant across the full spectrum of operations.' With that overarching goal to frame us, the Army will undergo a major transformation...[1]

How do logisticians transform to support the Army Chief of Staff's vision? Do the current logistics structures have to change?

Today, the United States military is in a period where the threat of a major war has diminished somewhat. However, the world remains a dangerous place, as regional instability, inflamed by ethic hatred and religious fanaticism, gives rise to a new category of threats.[2] The mission of the Army remains the same to fight and win its Nation's wars and to support the United States National Security and United States National Military Strategies. Former Secretary of the Army, Honorable Louis Caldera cites the experiences of Task Force Hawk in the Kosovo Operation as "an example of why the Army must transition to a lighter, more agile force"..[3] The need to transform into a very different kind of force from which now exist, has brought criticism from both inside and external to the Department of Defense (DoD).

In answering the questions about the Army's inability to adjust to the end of Cold War, the Chief of Staff of the Army, General Eric K. Shinseki, revealed a new strategic vision for the Army. The vision calls for the transformation to a force that is responsive, deployable, agile, versatile, lethal, survivable, and sustainable. Envision this force to be rapidly tailorable, rapidly expandable and strategically deployable across the entire spectrum of operations. The strategic environment of the 21st Century illustrates a need for a force to accomplish a variety of missions. The Army must have a force with the characteristics which is able to initiate combat operations at the place and time of its choosing, that can retain the initiative, build momentum rapidly, and win decisively. [4] A key goal is making these forces lighter without sacrificing lethality and survivability. Since the preponderance of the U.S. Army's force structure is contributed to combat sustainment, it is extraordinarily difficult to radically change the nature of warfighting without restructuring the existing logistics system.

Making the Army Vision a reality requires a quantum leap in strategic responsiveness and a tremendous effort with Revolution in Military Logistics (RML). This transformation effort not only gets forces to the fight quicker, but also implements the logistics focus from stockpiling of

supplies to distribution velocity and precision. The objective of transformation is to develop a force, which possess both commanders with an important new option for a rapid response force, ultimately called the "Objective Force".

As previously discussed, the major focus of the Army's transformation is to transition the Army into a strategically responsive force. Strategic responsiveness means deploying, anywhere in the world, a brigade in 96 hours, a division in 120 hours, and five divisions in 30 days. [5] Every piece of equipment belonging to the Interim Brigade Combat Team (IBCT) and ultimately the Objective Force must be transportable by C-130 aircraft and require if little, or any, reception and onward movements support. To achieve the degree of strategic response requires a Revolution in Military Logistics- the Army's vision of future logistics. Logistics management under transformation must be revolutionized to insure full compliance with projecting and sustaining the force.

During Operation Desert Shield/Storm enormous stocks of ammunition, spare parts and general supplies were stockpiled before hostilities commenced. Unfortunately, it took equally long to sort and conduct logistics operations. The logistics effort during the Gulf War was nothing short of a miracle. Ultimately, in future operations, where time is a factor; a smaller precise logistics footprint is imperative.

The logistical footprint reduction is a deliberate process encountering everything from building commonality in major platforms to creating a distribution based logistics systems and organizations which provides the war fighting commander a transparent, yet highly responsive logistics capability. However, the key to the success of transformation is the manner in which logistics is phased into each of the transformation axis. Unlike the tactical aspect of transformation where many of the doctrine and equipment are displaced when transforming into the Objective Force, all logistics systems are relevant throughout the entire process.

A seamless logistics organization must be capable of sustaining the committed total force throughout any mission. "The changing threat requires logistics to be flexible, mobile, integrated, compatible, and precise in targeting support to the point of the need".[6] The entire concept for transformation requires logistical considerations to be addressed early in the process, capitalizing on several recent logistics accomplishments such as: inter transit visibility; logistics automation; joint logistics improvements; reach back concepts and recapitalization. It is these issues that I will focus on when comparing strengths and weaknesses in the logistics structure as it relate to the Objective Force.

In addition to the logistics initiatives, it is equally important that the proposed logistics structure consider force structure implication affecting new units such as the Brigade Support

Battalion (BSB), which is the Objective Force's support organization. Of particular importance will be the changes in the organizational structure to adequately support the Chief of Staff of the Army's new requirements for having an Objective Force prepared to deploy across the full spectrum of operations. Can the reduced logistics tail in the Brigade Support Battalion along with the other initiatives respond to the Objective Force? The next section addresses the logistics implications in support of transformation.

THE TRANSFORMATION STRATEGY CONCEPT

In general, the Army's Transformation Strategy focuses on three major but distinct paths: the Legacy Force, the Interim Force, and the Objective Force as depicted on the chart. This can also be constructed as transforming on three main axes.

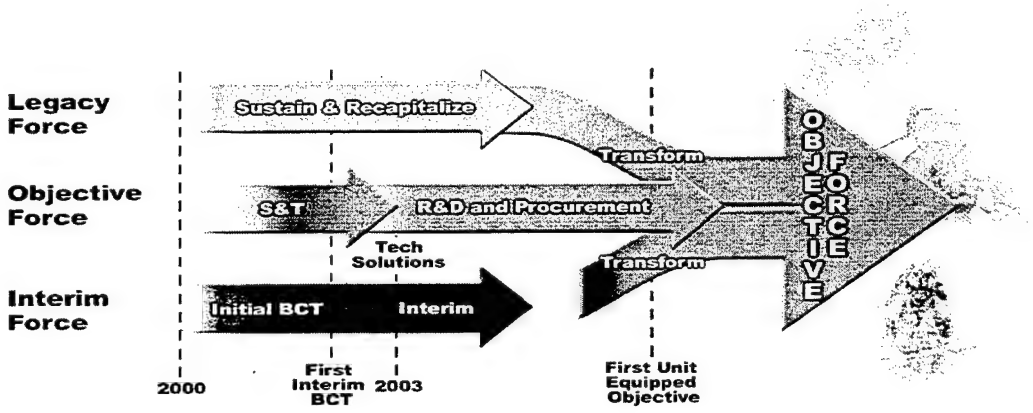

FIGURE 1[7]

The core axis consists of doctrinal and technological developments that lead to converting most of the Army's combat units into a standardized Objective Force configuration. Meanwhile, the Army continues to modernize its "Legacy Force" to preserve its combat capabilities until all units convert to the "Objective Force". The Army's third transformation axis is a program to transition eight brigades into Interim Brigade Combat Teams. In the near term, this program will

allow land commanders to deploy medium-weight, highly mobile forces to crises. The transitional brigades' intermediate objective is to provide unit platforms upon which to refine the Army's understanding of the "Objective Force", with the capabilities described in the Army vision. [8]

> The legacy force, that magnificent army we see busily deployed abroad today, will remain the force of choice should this Nation go to war anytime in the next 15 years. Its readiness is paramount if we are going to have the luxury of time and investment to get the objective force right... [9]

The Legacy Force centers on upgrading the major weapons that the Army has in the inventory today, primarily the Army's major ground combat maneuver vehicles, armored fire support and combat support vehicles. This is commonly known as the heavy force, comprised of the Army's mechanized infantry and armored divisions. The Legacy Force will continue as the primary war fighting ground force to counter any threats to the United States.

Interim Force represents the first step toward using available technology to re-equip the brigade combat teams to adapt and endure many of the Army's complex missions. This allows the brigade size unit to deploy more quickly than the heavy forces but have more combat power, ground mobility and soldier protection than the Army light infantry forces. The Interim Force handles the complex missions as well as being the test model to seek the characteristics of the objective force.

Objective Force is the optimum solution, providing unique characteristics and capabilities to the Army. The Objective Force axis is designed to give the Army the means to assimilate all aspects of the heavy, light and interim forces while retaining all capabilities to be dominant across the full spectrum of operations. Currently, the Objective Force is in the science and technology phase, which mainly focuses on equipment. Department of Defense, Army, and private industry are searching to create the Future Combat System (FCS), with the goal to produce a lighter fighting vehicle incorporating current and future technologies. Ultimately, the logistics goal in this phase is to maximize all of DoD's logistics initiatives in providing sustainment capabilities without increasing the logistics tail that correlates to weight.

LOGISTICS TRANSFORMATION STRATEGY

The tenants of transformation include: responsiveness, deployability, agility, versatility, lethality, survivability and sustainability. Of these, three are directly relevant to successful logistic operations, responsiveness, deployability and sustainability.

Since the Army's ability to deploy is the clearest sign of this Nation's commitment in support of military power, **deployability** is the central theme for transformation. To achieve this **responsiveness**, the force must be more deployable-capable of rapid strategic movement. "You are not relevant if you can't get to the fight. Two major logistics multipliers, the Heavy Equipment Mobility Tactical Truck (HEMTT), primary tactical level resupply vehicle and the Palletized Loading System (PLS) are critical to achieving "push-forward logistics" with minimum handling, and are within the C-130 cargo capacity. Utilizing the PLS maximizes the number of logistics vehicles on the battlefield, reducing the need for forklift and cranes, etc.

When the brigade size force is successfully deployed in four days, a Brigade Support Battalion (BSB) is designed to support a brigade of 3900 soldiers and 1400 vehicles. The BSB executes a focused concept of support that is fully integrated with the brigade concept of operations and scheme of maneuver. In contrast, the current Forward Support Battalion (FSB) is capable of sustaining a heavy brigade of 7,500 soldiers for 10 days. However, like the BSB, the FSB must be augmented to conduct its wartime mission past the initial 10 days. Sustainment stocks must also be integrated into the deployment flow early to sustain the first arriving forces. Battlefield distribution will combine situational understanding with efficient air and surface delivery systems to form a seamless pipeline, eliminating stockpiling of supplies. The BSB has organic transportation and bulk water purification assets that the current FSB must secure from the Main Support Battalion (MSB). However, the BSB is designed to be easily augmented by external experts that will bring current business processes, expertise and links to a truly reach back infrastructure.

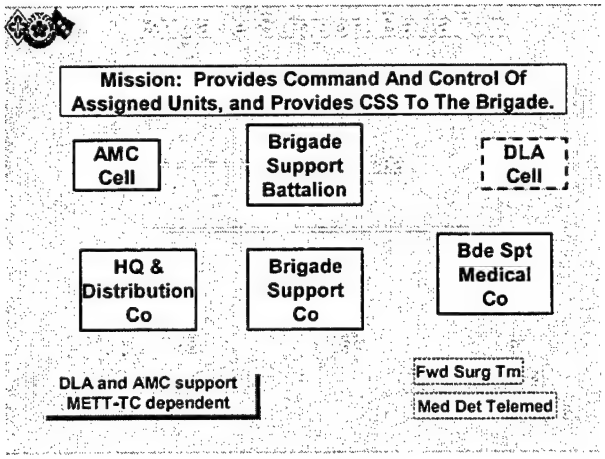

FIGURE 2[10]

Under this new structure, the BSB support concept is extremely flexible utilizing operative tailoring based OPTEMPO, and the commander's priorities for support. Logistics flexibility and retasking of BSB elements are depicted as supplies and services, tailored, packaged and delivered to specific supported units. Initial sustainment will rely on a combination of unit basic loads.[11] These unit basic loads and strategic configured loads are pre- build loads-like food, ammunition and barrier material needed and pre-positioned at the right place and time. The BSB will operate in a split-based operations support concept, which will ultimately support the goal of having only the required number of people and equipment forward. This concept will work utilizing satellite communications and air and sea lines of communication

From a cursory analysis of the new support concept and its associated changes in logistics force structure in support of the interim brigade, it is obvious that the new environment will present extremely difficult challenges. During the Cold War era, the U.S. depended on pre-positioned stockage to include both vehicles and supplies. In addition, the logistical plans included the use of robust infrastructures to augment the U.S. logistical systems. As a result, logistics force structure was tailored to meet the Cold War scenario not that of a total austere environment.

Recently, the U.S. Army has found itself in environments that had a poor or no infrastructure coupled with little Host Nation Support (HNS). Consequently, total reliance on the Army's organic infrastructure was necessary. For example, Somalia, which had no support other than port operations, forced the U.S. forces to build their own infrastructure. The question of the new BSB having the organic capabilities to sustain itself until other forces arrived in theater is a major concern.

Under the new concept, the BSB is designed to have the organic capability to sustain the Objective Force for only 3 days. This can be extremely risky if the pre-planned Time Phased Force and Deployment list is interrupted due to competing airlift, unsecured Lines of Communication (LOC) or unsupportable supply base. If the BSB is successful, the remaining logistics enablers must be capable of providing the necessary logistics multiplier factors advertised today.

In view of the transformation tenants, emphasis must also apply to **sustainability** that requires the total integration of all of the recent and planned logistic initiatives to reduce the footprint. Initiatives that are part of Distribution Based Logistics System (DBLS) will require that logistics be reshaped to sustain and project the Objective Force. This concept supports three pillars that include visibility, capacity and control. Visibility can be categorized as understanding the war fighting commanders' priorities and mission therefore focusing on the logistics mission.

Knowledge of the logistics capabilities and constraints including the logistics infrastructure, supporting logistics systems, transportation resources; and visibility over the total logistics requirements in real time will assist the support organizations from Corps Support Command (COSCOM) to the theater support or DOD agency.[12]

Capacity entails having the knowledge to respond to real time information, to include, materiel systems; streamlined inventories, infrastructures; and skilled personnel. Control encompasses leaders at all levels applying logistics capabilities to appease operational requirements. The DBLS is the envisioned Revolutionary Military Logistics end-state. [13]

JOINT Theater Distribution: The Three Tenets

Visibility	Capacity	Control
Situational Awareness (SA) of Supported Forces	Logistics Infrastructure	Army
Requirements	Ports, Roads, Rail lines	Contractors
Priorities among Units	Installations, Facilities	External Ties
Logistics Effectiveness	**Materiel**	**Doctrine**
METT-T	Log Systems: Trucks	Contractors on Battlefield
SA of Log Orchestrator	Embedded Systems	Prime Vendors
Capabilities, Constraints	Supplies	Sustain
Logistics Efficiency	Tools, Equipment	Non-Linear Support
Log-Relevant METT-T	**Personnel**	**Performance Metrics**
Provide SA to Support Log	DOD	Program, Process,
Requirements, Priorities	System	Measures, Standards
Orchestrator-to-Arranger,	Contractors	Operation, Functional
Provider-AFSC, DLA	Host Nation	**Leadership**
Integrate Above	**Training**	Logistics "Artisans"
Log Automation	Operational, Technical Proficiency	**Financial Control**
System Security		Requirements, Execution

FIGURE 3[14]

TOTAL TRANSFORMATION CONCEPT

Logistics cannot be the bill payer for transformation nor should it be the "long pole" in achieving the transformation objective. It is important that we do not repeat the mistakes of the

past especially, like the modernization period of the 1980s and 1990s. During that period, the Army invested the majority of its Research, Development, Technology, and Equipment (RDT&E), and procurement dollars on the M1 Abrams tank and M2 Bradley Infantry Fighting vehicle. Unfortunately, the major logistics programs such as the Family of Medium Tactical Vehicle (FMTV), Heavy Equipment Transport (HET), and Palletized Load System (PLS) were several years behind the key combat systems. As a result, the 25 year old M35A2 21/2 ton truck and M49A2C tank and pump unit did not have the mobility characteristics required to effectively support the newer superior weapon systems. Consequently, the M1/M2 superior performance could not be fully realized until the critical logistical systems became available. It is important that the Army view transformation as a total system, fielding systems in a "total fielding" concept.

CURRENT LOGISTICS/SYSTEM INITIATIVES

Several logistics initiatives and innovative approaches are required for the force to be more sustainable. This requires the reduction in the number of vehicles deploying vehicles, leveraging reach back capabilities, investment in a systems approach to the weapons and equipment designed, and revolutionize the manner in which we transport and sustain our people and materiel is equally imperative. [15]

Logistics transformation unlike the tactical transformation, includes every level of logistics, from the tactical to strategic level. The logistics multiplier will change the mindset from unilateral, service logistics to joint logistics. Joint logistics maximizes focused logistics concept by drawing on expertise from organizations like the Defense Logistics Agency (DLA).

The DLA's Defense Energy Supply Center obtains and distributes petroleum products for Department of Defense worldwide. Three DLA pre-positioning ships carry a total of 660,000 barrels of fuel for aircraft turbine- powered ground vehicles and equipment which will rectify situations where HNS or austere conditions exist. [16] Under the Prime Vendor concept, an expanded form of direct vendor delivery, features direct delivery from a designated vendor who can ship abroad array of items for a particular commodity to the customer within 24 to 48 hours-after receiving an order. Direct Vendor Delivery (DVD) was initially established for subsistence and medical commodities, however, this program has been expanded to include additional classes of supplies. DLA is now focusing on expanding the use of Prime Vendor or Direct Vendor Delivery for other commodities such as commercially available equipment and vehicle parts. It is envisioned that the DVD program will reduce not only the tactical supply footprint, but

energize the industrial base to be responsive for critical low-density items. Both programs provide effective and efficient support to customer's own sites borrowing from the best business practices in private industry,

Additionally, DLA has implemented the groundbreaking "Premium Service" for high-value critical items for which there infrequent but urgent requirements worldwide. [17] Operated from a central location, collocated with an express airfield, the Premium Service initiative is customer driven and is based on proven practices. Innovative ideas like these can reduce the logistics footprint.

While the tenants of U.S. Army logistics transformation include interoperability and commonality with allies and sister services, the reality of a total transformation of existing equipment, both combat and support is extremely unlikely, due to decline of defense budget. Systems like the Medium Extended Air Defense System (MEADS) program is perfect example of what the Army wants of its future systems. MEADS is to be a mobile, transportable air and missile defense system able to provide 360-degree protection against tactical ballistic missiles, cruise missiles, and air breathing threats. The key attribute of the MEADS program is its unique approach of achieving true interoperability by instituting a concept of "plug and fight".[18]

The plug and fight strategy calls for developing sensors, battle management command, control and computer (BMC3) systems and missile launchers to be interchangeable from one system to another. For example, under the plug and fight concept, components from key Army air defense programs such as the Theater High Altitude Area Defense System (THAAD) by Lockheed Martin, Patriot Advance Capability-3 by Raytheon and Lockheed Martin, and MEADS by Lockheed Martin, Germany's Daimler Chrysler Aerospace and Italy's Alenia could be mixed matched on the battlefield. [19] This concept embeds the interoperability from the ground up at the component level so that the "plug and fight" backbone capability is achieved. If this concept were emulated throughout every family of equipment, the Army would realize reduced airlift requirements, less logistic footprint due to interchangeability of parts and less mechanics to perform the unscheduled maintenance.

The Army selected the Light Armored Vehicle (LAV) III to become its Interim Armored Vehicle (IAV) because the service wanted commonality across a family of vehicle that would cost less to operate and maintain. [20] One of the criteria for the IAV program was that it has a family of vehicles designed to fight together with commonality across all platforms. Eighty five percent of the parts are common to other fielded systems. LAV III will use the same Caterpillar engine used by the Stewart and Stevenson, Family of Medium Tactical Vehicles (FMTV),[21] In addition, the IAV will also exceed reliability requirements for all variants and configurations, with

greater than 1,000 mean miles between critical mission failure. Another key logistics multiplier is the fielding of weapon systems with embedded prognostic and diagnostics capable of identifying potential faults before the systems break and indicate exactly what is wrong when they do break. The result will be a smaller repair parts stockage and fewer mechanics in the area of operations.

As the Army implements the transformation strategy, a fully integrated modernization program is essential. Recapitalization is a critical component of the modernization program because of the impact on the budget. Recapitalizing our legacy systems is of equal importance to the development of the Future Combat System. For logisticians, this is extremely important. Recapitilization is the maintenance and systemic upgrade of the currently fielded systems to ensure operational readiness and a "zero-time/zero-mile" system. [22] The Army's goal for recapitalization is to maintain many of the selected legacy systems expected life service through 2010. Recapitalization also reduces ownership costs while increasing reliability and capabilities.[23] If we keep the existing systems, only marginal improvements are possible since the fundamental way we fight, and therefore support will remain the same. Selected formations of key armored and aviation systems as well as enhance light-force effectiveness. In addition, digital technology insertion will continue in key legacy systems to enhance their operational capabilities and ensure a smoother transition to the objective force. It is envisioned that recapitialization of logistical equipment will not be a "throw away" concept. Most logistics systems offer a platform suitable for current and future upgrades.

The majority of the key legacy systems are logistical support systems such as trucks, and generators to support the digital force. For example, the Army is expected to move forward with a series of improvement programs for its fleet of heavy logistics trucks currently, used to haul ammunition and other classes of supplies. This plan will follow two separate tracks. Track one, is to overhaul older trucks in a recapitalization concept. Track two, is to acquire new or refurbished trucks from the prime contractor. A significant aspect of this plan is two fold: first, is the base lining of the entire fleet to maximize commonality through the process of configuration control. This is an enormous logistics multiplier when logistics foot print reduction is enforced. Second, is during the overhaul/acquisition process; every opportunity to make the heavy, expanded mobility tactical truck, (HEMTT) palletized load system (PLS), and heavy equipment transport (HET) fleets as similar as possible, by installing common parts.[24] A major goal is to take three major trucks and make them common to the maximum extent possible. It is estimated to save millions of dollars as well as reduce the logistical footprint.

During this logistic initiative the major emphasis is concentrated on the re-design of the current logistical business process, which will emphasize focused logistics while de-emphasizing supply mass stockpiles. Current programs such as Joint Total Asset Visibility (JTAV) and the distribution-based logistics (DBL) concept is essential to the success of the transformation objective by providing users with timely and accurate information on the location, status and identification of units, personnel, equipment and supplies.[25] JTAV supports focused logistics and DBL is an operational concept that rely on distribution velocity rather than redundant stockpiles of supplies to responsive support to war fighters. DBL as a concept is the most important logistics initiative.

Aggressive innovative ideas are being implemented by DOD, which is assisting the Army in its logistical transformation. This will result, in right-sizing the logistics footprint through reductions in logistics forces, facilities, equipment and supplies. These reductions enable significant enhancements to joint logistics policies, structures and processes in inventory management, engineering, maintenance, and infrastructure improvements.

As discussed earlier, the Chief has established a goal of deploying a Brigade in 96 hours, a Division in five days and five Divisions in 30 days. Realistically, it takes 300 hours just to have their ammunition transported by air and delivered to the area of operation.[26] The reason for this apparently long period is due to the cumbersome process of loading and unloading ammunition pallets from aircrafts and moving them to areas where Army logistics trucks can pick them up and transport them up as far forward as possible. Recent technology can cut the 300 hours down to less than 100. That would be accomplished with special pallets, which are currently in development. These pallets would be customized to fit inside Air Force aircraft cargo compartments and would be sized to hold the Army's standardized ammunition cargo beds, called flat racks or CROPS (containerized roll-in/out platforms).[27] This concept supports the fully containerized logistics theater, which is necessary to reduce manpower, and maximize the capabilities of the current PLS system. In fact, the Army is currently fielding a HEMTT with a load handling system similar to the PLS to the 4th Infantry Division. The 4th ID, which is being equipped with new, computerized tanks as part of the Army's digitalization program recently received a forward support battalion with 44 new heavy, expanded-mobility, tactical truck with load-handling system (HEMTT-LHS). This concept will allow the division to call forward supplies and eliminate stockpiling supplies, which can be labor intensive. The legacy force from a logistics perspective is moving forward. Many of the current logistics initiatives are being implemented in the legacy force and can be easily transferred to the interim and objective force.

As the capabilities of the logistic initiative materialize, the logistics' community needs to assess the mission as it evolves. For example, the logistics community intends to maximize the number of logistics vehicles on the battlefield that have their own organic upload and download capability, reducing the need for forklift, cranes, etc. A system that meets the need in the PLS is originally designed for ammunition units.

Material developers are working with industry to adapt shipping containers to meet both parties' needs. While the initial IBCT in a contingency will move by air, ninty percent will follow by MSC vessels. [28] This 40-foot container is the standard for the shipping industry. However, it is big and heavy and requires significant materials-handling equipment to move. To rectify this problem, two 20-foot containers can be linked to meet the shipping standard and unlinked once they are in the theater. Another advantage of this container imitative is the fact that the industry standard container can be used by suppliers using the DVD concept that will support focused logistics.

The Objective Force has the flexibility of supporting a major theater of war fight while possessing the capabilities to support smaller scale contingency (SSC) operations. During this point of axis, the successful transferring of logistics enhancements demonstrated in both the Legacy and Interim forces transitioned in the ultimate Objective Force is critical. Objective Force logistics is planned to utilize joint/interagency reach back capabilities for intelligence, planning support effects, administration and logistical support. [29] Currently, the Army's Science and Technology (S&T) board is working hard to answer the question, How do you reduce in-theater logistics, thereby reducing strategic lift requirements without degrading the sustainability of the force?

CONCLUSION AND RECOMMENDATIONS

The U.S. military today is poised halfway between the industrial age and the information age that succeeded it. At the end of the century, the armed forces continue to be designed to fight war as it has evolved during the industrial age or more importantly the Cold War. The Army's ten division, Cold War mobilization structure is too complex, too large, centralizes too many capabilities at a high level, deploys too slowly and is too vulnerable to weapons of mass destruction.

The key to operational success is our ability to rapidly move our combat power to a supported CINC's theater, ready for mission execution. Army transformation is the deliberate process that will bridge the highly respected legacy force to the objective force of the future.

The success of Army transformation is dependent on a total concept enhanced by logistics initiatives.

The question of if logistics can be transformed to support the CSA objective is easily answered. The logistics community is already well on its way of leading the transformation effort. For example, planned and well thought out recapitalization programs coupled with a deliberate effort to develop systems that will reduce the logistical footprint is paramount to the success of transformation. It is critical that the design of the Future Combat System (FCS) encompass some of the parts of the current logistics systems, for instance, emulating or incorporating wheeled/drive train design of either the PLS or HEMTT systems. One of the key advantages of the logistics initiatives during the Objective force area is it maximizes the commonalities and integration in logistics procurement operations. Computer diagnostic and module replacements will reduce the repair cycle time expeditiously. Although, in its infancy the hybrid-electric truck shows promise as a logistics multiplier by reducing fossil fuel consumption in the Army's truck fleet. The return on investment is reduced class III (the largest logistical footprint factor). Funds permitting, research in this area should be highly prioritized.

Key logistics enablers are currently fielded or in the process of being deployed to the fighting force. Systems that can make "real time situation awareness" a reality will assist in Total Asset Visibility with Automated Identification Technology (AIT), shared data environment and logistics automation systems. Interoperability issues must be considered when developing future logistics automation systems. A seamless approach to automation including transportation and supply functions must be realized.

Logistics transformation is much more than the acquisition of new systems, but rather a transformation of logistics thinking. A mental change from stock piling supplies to focused logistics, coupled with exercising a total fielding development concept will be the biggest challenge facing our Army as we transform into the future.

Reorganizing the Army is the first critical step in a broader program of defense reform and reorganization. It will not only result in Army ground forces that are more deployable and effective in Joint operations, that will create more deployable combat power than what currently exists.

Strategic responsiveness in the 21st Century means organizing ground forces that can come into action before the peace is lost. This is something the Army cannot do effectively. However, the temptation for politicians to allocate additional funds for the current Army structure to address what some Army leaders describe as minor training, readiness and modernization problems is a huge mistake. In addition, new technologies and logistical enhancements

outlined in this paper cannot and should not be grafted on to old organizations that are not optimally designed to exploit them. Truly, revolutionary logistical change occurs when technology, organization, leadership and tactics all change. As such, the new BSB concept should be immediately implemented and incorporated in the legacy as well as the Interim Force. Cost should not be an obstacle since reorganization of the current Forward Support Battalion and minimum realignment of DISCOM's assets has to occur anyway. The Brigade Support Battalion (BSB) will encounter some operational strain until all of the logistics enhancement systems are fielded. The infrastructure required to support the BSB's reach back is currently in place and will be a definite logistical multiplier saving time, money and strategic lift.

The Joint Requirements Oversight Council, (JROC) must enforce discipline in providing oversight on new logistics programs. For example, the United States Marine Corps (USMC) is currently acquiring trucks different from the Army's Family of Medium Tactical Vehicle. Capability requirement is similar which should preclude a new start for the Marine Corps. Allowing a different truck in the theater of operation increases the logistics footprint.

The Army's new vision is achievable and logistically supportable. However, transformation must continue to be conditioned-based which means the pace of the transformation is not preordained. At every step, the decision to progress to the next stage will depend on the determination that all necessary preconditions have been met. The first essential condition that will be met at every step is to sustain the capabilities to meet the Nation's security requirements.

Finally, the question of choice for the Army is quite simple; transformation is not an option, but rather an imperative. It is absolutely critical that this institution transform to cope with new dynamics in a changed strategic environment. This challenge must be met by building new forces, new ideas and spending this Nation's critical resources smart.

Word count: 5,283

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